



UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office

NOTICE OF ALLOWANCE AND ISSUE FEE DUE

LM01/0214

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| APPLICATION NO. | FILING DATE | TOTAL CLAIMS | EXAMINER AND GROUP ART UNIT | DATE MAILED |
|-----------------------|---|--------------|-----------------------------|---------------|
| 09/074,474 | 05/07/98 | 006 | CHU, K | 2752 02/14/00 |
| First Named Applicant | BROOME, 35 USC 154(b) term ext. = 0 Days. | | | |

TITLE OF INVENTION SINGLE OBJECTIVE LENS FOR USE WITH CD OR DVD OPTICAL DISKS

| ATTY'S DOCKET NO. | CLASS-SUBCLASS | BATCH NO. | APPLN. TYPE | SMALL ENTITY | FEES DUE | DATE DUE |
|-------------------|----------------|-----------|-------------|--------------|----------|----------|
| Z 8998 | 369-112.000 | I14 | UTILITY | YES | \$605.00 | 05/15/00 |

**THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT.
PROSECUTION ON THE MERITS IS CLOSED.**

**THE ISSUE FEE MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS
APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED.**

HOW TO RESPOND TO THIS NOTICE:

- I. Review the SMALL ENTITY status shown above.
If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:
- A. If the status is changed, pay twice the amount of the FEE DUE shown above and notify the Patent and Trademark Office of the change in status, or
B. If the status is the same, pay the FEE DUE shown above.
- If the SMALL ENTITY is shown as NO:
- A. Pay FEE DUE shown above, or
B. File verified statement of Small Entity Status before, or with, payment of 1/2 the FEE DUE shown above.
- II. Part B-Issue Fee Transmittal should be completed and returned to the Patent and Trademark Office (PTO) with your ISSUE FEE. Even if the ISSUE FEE has already been paid by charge to deposit account, Part B Issue Fee Transmittal should be completed and returned. If you are charging the ISSUE FEE to your deposit account, section "4b" of Part B-Issue Fee Transmittal should be completed and an extra copy of the form should be submitted.
- III. All communications regarding this application must give application number and batch number.
Please direct all communications prior to issuance to Box ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PATENT AND TRADEMARK OFFICE COPY

| | | | |
|-------------------------------|------------------------|---------------------|--|
| Notice of Allowability | Application No. | Applicant(s) | |
| | 09/074,474 | BROOME ET AL. | |
| | Examiner | Art Unit | |
| | Kim-Kwok CHU | 2752 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance and Issue Fee Due or other appropriate communication will be mailed in due course.

1. This communication is responsive to amendment filed on 1/31/2000.
2. The allowed claim(s) is/are 1-4,6-8 and 10.
3. The drawings filed on 31 January 2000 are acceptable.
4. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
 - a) All b) Some* c) None of the CERTIFIED copies of the priority documents have been
 1. received.
 2. received in Application No. (Series Code / Serial Number). _____.
 3. received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.
5. Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

A SHORTENED STATUTORY PERIOD FOR REPLY to comply with the requirements noted below is set to EXPIRE THREE MONTHS FROM THE "DATE MAILED" of this Office Action. Failure to timely comply will result in ABANDONMENT of this application. Extensions of time may be available under the provisions of 37 CFR 1.136(a).

6. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient. A SUBSTITUTE OATH OR DECLARATION IS REQUIRED.
7. Applicant MUST submit NEW FORMAL DRAWINGS
 - (a) because the originally filed drawings were declared by applicant to be informal.
 - (b) including changes required by the Notice of Draftsperson's Patent Drawing Review(PTO-948) attached
 - 1) hereto or 2) to Paper No. _____.
 - (c) including changes required by the proposed drawing correction filed _____, which has been approved by the examiner.
 - (d) including changes required by the attached Examiner's Amendment / Comment.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the reverse side of the drawings. The drawings should be filed as a separate paper with a transmittal letter addressed to the Official Draftsperson.

8. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Any reply to this letter should include, in the upper right hand corner, the APPLICATION NUMBER (SERIES CODE / SERIAL NUMBER). If applicant has received a Notice of Allowance and Issue Fee Due, the ISSUE BATCH NUMBER and DATE of the NOTICE OF ALLOWANCE should also be included.

Attachment(s)

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input type="checkbox"/> Interview Summary (PTO-413), Paper No. _____. |
| 5 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. 7 | 6 <input type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

REASONS FOR ALLOWANCE

1. Claims 1-4, 6-8 and 10 are allowable over the prior art of record.

2. The following is an Examiner's Statement of Reasons for Allowance based on applicant's amendments filed on January 31, 2000.

A conventional optical head having two laser sources with two different wavelengths for reading two different thickness disks has separate (discrete) aperture control and aberration correction means. Using only a single objective lens, applicant claims said optical head having an objective lens with an central aperture zone and outer aperture zone where each zone has its numerical aperture for its corresponding wavelength. In addition, applicant claims the objective lens has a diffractive means which provides aspheric surface for both spherical aberration and spherochromatism correction.

The prior art does not teach or fairly suggest the features as recited in applicant's claims.

3. Any comments considered necessary by applicant must be submitted no later than the payment of the Issue Fee and, to avoid processing delays, should preferably **accompany** the Issue Fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizuno et al. (5,978,346) is pertinent because Mizuno teaches an objective lens having a diffractive means to diffract higher order light beams.

Shimano et al. (5,889,748) is pertinent because Shimano teaches an objective lens having two aperture zones.

Lee et al. (5,703,862) is pertinent because Lee teaches a dual focus objective lens.

Chen (5,044,706) is pertinent because Chen teaches a aspherical lens having diffractive gratings.

5. Any response to this action should be mailed to:
Commissioner of Patents and Trademarks Washington, D.C.
20231
or faxed to:
(703) 305-9051, (for formal communications intended for entry)
Or:
(703) 305-9731, (for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2021 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim CHU whose telephone number is (703) 305-3032.

14 2/10/2000

Kim-kwok CHU
Examiner AU2752
February 10, 2000

(703) 305-3032


TAN DINH
PRIMARY EXAMINER